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# Farm Mobilization FACT SHEET

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## Save Grain in Transit....Keep Insects Out

Since grain is essential to America's strength and defense, grain supplies must be protected and conserved to meet the Nation's high-level needs in the coming year. An important part of the job is controlling insects that attack these cereal crops and milled products in transit, on their way from grain elevators to ultimate consumers.

Insects usually get their start in boxcars, trucks, barges, and ships from grain that is already infested. They hide in cracks and burrows in the woodwork and in accumulations of grain dust behind linings and under partitions or dunnage, and then emerge to attack fresh shipments.

Losses from these insects are unnecessary. For they can be controlled. Entomologists suggest an eight-point program which will reduce or partially eliminate these insect attacks:

1. Inspect products in storage before shipments and ship only insect-free products.
2. Package to prevent insect invasions.
3. Avoid mixed-lot shipments.
4. Isolate infested products from fresh supplies in transit.
5. Clean, spray, and inspect boxcars and trucks.
6. Change construction of boxcars to prevent accumulation of waste grain.
7. Clean, spray or fumigate, and inspect holds of barges and ships.
8. Inspect and, when necessary, treat all food and grain shipments on arrival at destination.

No one person or one company alone can protect grain in transit from insects. Shippers and handlers all along the line must cooperate. A coordinated program requires the help of grain elevator operators, truckers, railroads, shipping services, millers and other handlers and processors of grain. The eight-point program is spelled out in this fact sheet, which is designed largely for distribution to the grain trade and handlers and shippers of grain.

## grain handlers and processors should

### SHIP ONLY INSECT-FREE PRODUCTS

Grain or milled products that are infested before delivery to the carrier will contaminate the railway cars, trucks, barges, and ships used to transport them and thus endanger future shipments. Grain or grain products should be inspected before delivery to a common carrier. Infested grain should be fumigated or otherwise treated.

Railroads should be notified immediately when cars are known to be infested or to have carried shipments of infested grain. The local railroad agent should always be advised, in writing. If the car is being loaded out, the agent at destination also should be notified.

## grain processors should

### PACKAGE TO PREVENT INVASION

Cereal products should be packaged in substantial, well-sealed paper bags and cartons for protection against insects. Seams of paper bags should be cemented. Sewed tops should be protected by strips of gummed tape or other covering to prevent larvae from entering the needle holes. A properly applied wet-wrap paper covering on cartons will eliminate possible openings.

Added protection against insects is given by fabric or paper bags that have been impregnated with nonpoisonous insecticides or repellents.

## mills and railroads should

### AVOID MIXED-LOT SHIPMENTS

The common practice of filling out a carload shipment with different grain products should be avoided. If one product is infested, it endangers the rest of the carload. Flour and animal feeds should not be shipped in the same car because of the difficulty of keeping feeds free from insects.

## grain handlers and processors should

### ISOLATE INFESTED PRODUCTS

Where flour and milled cereal products are delivered by truck, fresh supplies should be segregated from items being returned to the mill because of insect infestation. Trucks used for both purposes should be equipped with a metal box or special metal compartment especially for infested products.

Trucks and metal boxes used in hauling infested products should be thoroughly cleaned immediately after the damaged products are delivered. Infested products should be condemned, withheld from use as human food, and disposed of promptly so they will not contaminate uninfested products.

## railroads should

### CLEAN, SPRAY, AND REMODEL BOXCARS

Boxcars used for transporting grain and foodstuffs susceptible to insect damage should be individually inspected before loading. Between shipments, cars should be swept and blown out with compressed air.

Spraying the interior of boxcars with a residual spray twice a year will materially reduce insect infestation. Sprays containing 1 percent lindane, 5 percent DDT, 0.5 percent pyrethrin or allethrin, or 0.1 percent pyrethrin or allethrin plus 0.9 percent of a suitable synergist are recommended. Cars should be lined with paper after spraying and before they are loaded with flour to protect shipments from spray deposits.

The accumulation of waste grain behind the linings in cars can be prevented by inserting resilient blankets of fibrous glass wool between the linings and the walls of the boxcars.

## ships and barge lines should

### CLEAN, SPRAY OR FUMIGATE, AND INSPECT HOLDS

To keep insects out of grain shipped by water, cargo vessels should be thoroughly cleaned, sprayed or fumigated, and inspected before loading. Barges and ships are well adapted to fumigation because of their tight hull construction.

Hydrocyanic acid and methyl bromide are good fumigants to use. Since they are poisonous gases, the crew must vacate the vessel during fumigation and the airing period. Fumigation should be done only by trained personnel or a competent pest-control operator. The treatment may require 2 days or more.

Spraying takes less time, however. Use a residual spray containing 2-1/2 percent DDT or methoxychlor or 1 percent lindane, plus 5 percent of a good "knock down" agent such as pyrethrum (20-1 extract) or a thiocyanate. Sprays containing 0.5 percent pyrethrin or allethrin, or 0.1 percent pyrethrin or allethrin, plus 0.9 percent of a suitable synergist are also recommended. Or use an aerosol spray containing 15 percent DDT and 2 percent lindane at the rate of one-half gallon per 100,000 cubic feet, observing the same precautions as for fumigation to protect operators.

## all grain handlers should

### INSPECT SHIPMENTS AT DESTINATION

All shipments of grain and cereals should be inspected with care immediately on arrival at destination. If insects are not visible crawling over packages and bags, samples of cereals or flour may need to be sifted to detect their presence.

Infested products should be segregated at once and fumigated as soon as possible before they are carried into warehouses or processing plants. For treating in bulk, methyl bromide is the most practical fumigant. Fumigation should be done only by trained personnel or a competent pest-control operator.

